

REMARKS

Entry of the foregoing amendments and reconsideration of the above-identified application are respectfully requested in view of the following remarks.

I. Claim Status:

Claims 1-24 were pending in the present application prior to the submission of this amendment. Claim 1 is the only independent claim. In the Office Action dated 08/22/2008, all of the pending claims (1 through 24) have been rejected by the Examiner.

By this amendment, Applicants have cancelled claim 24 without prejudice or disclaimer, and amended claims 1 and 13 without introducing new matter.

II. Response to Rejections under 35 U.S.C. §103:

Claims 1, 2, 5-7, 12, 13, 16-18, 23 and 24 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,211,362 to Laskey *et al.* (hereafter “Laskey”) in view of U.S. Patent No. 6,503,069 to Moroi *et al.* (hereafter “Moroi”).

Claims 3 and 14 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Laskey in view of Moroi and further in view of U.S. Patent No. 5,626,188 to Dewar *et al.* (hereafter “Dewar”).

Claims 4 and 15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Laskey in view of Moroi and further in view of U.S. Patent No. 3,608,629 to Cowans *et al.* (hereafter “Cowans”).

Claims 8, 10, 11, 19, 21, and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Laskey in view of Moroi and further in view of U.S. Patent No. 3,151,672 to Edmund *et al.* (hereafter “Edmund”).

Claims 9 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Laskey in view of Moroi and further in view of U.S. Patent No. 4,615,384 to Shimada *et al.* (hereafter “Shimada”).

Independent Claim 1:

In the interest of expediting prosecution and expeditiously advancing this application to allowance, Applicants have chosen to amend independent claim 1, as set forth above. More specifically, amended claim 1 now recites the features of “the first cooling chamber is located between the medium passage and the compression chamber, and the cooling medium flows into the first cooling chamber and the medium passage.” The amendatory language added to claim 1 finds support at least in the recitation of claims 13 and 24, as presented in Applicants’ previous submission filed April 10, 2008; and in the original specification and drawings filed on March 29, 2004 (see, e.g., FIGs. 1 and 5). Claim 13 has been amended for stylistic and/or grammatical purposes and to conform to the amendment of claim 1. No new matter has been introduced.

Applicants respectfully assert that none of the above-cited references, either taken alone or in combination, teaches or suggests each and every feature of amended claim 1, as whole. In particular, neither Laskey nor Moroi disclose or suggest “the first cooling chamber is located between the medium passage and the compression chamber, and the cooling medium flows into the first cooling chamber and the medium passage”, in conjunction with the other limitations, as now recited in amended claim 1.

In the Office Action, the Examiner expressly concedes that “Laskey et al. ‘424 do not teach a first cooling chamber provided to surround a discharge port for cooling the gas flowing therethrough.” Thus, the Examiner acknowledges that Laskey is deficient in at least this one aspect. In an effort to fulfill Laskey’s deficiency, the Examiner cites Moroi, and asserts that Moroi teaches such a feature. Without fully addressing the propriety of the combination of Laskey and Moroi, Applicants submit that the Office Action is deficient and/or fails to establish *prima facie* obviousness.

Initially, regarding the feature of “the first cooling chamber is located between the medium passage and the compression chamber” as now recited in amended claim 1, the Examiner concludes that “It would have been obvious to one of ordinary skill in the art to have placed the first cooling chamber taught by Moroi et al. in between the medium passage taught by Laskey et al. and the compression chamber.” (Office Action, page 5).

Applicants respectfully disagree with the Examiner's conclusion. Moreover, Applicants note that “[t]he key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. __, __, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR*, 550 U.S. at __, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval).” (MPEP §2142, Emphasis added).

In the present case, the Examiner alleges that “Both the cooling chamber of Moroi and the cooling passage of Laskey are adjacent to the outlets in their respective inventions, so it would have been a matter of engineering design choice in the combination to determine which cooling structure goes first.” (Office Action, page 5).

Applicants respectfully disagree. Referring to Laskey, Applicants note that when the turbo compressor unit is in operation, air passes axially through the sleeve 98, compressed by the compressor assembly 26, and the discharge air passes axially through the intercooler assembly 28. On the other hand, water supplied to the water inlet 112, spirals inwardly to the center of the intercooler (or sleeve 98) through the first pass 120 and enters the second pass 122 to cool the discharge air. While the water in the first pass 120 does cool the discharge air, the water is heated by the heat of the discharge air. When the heated water approaches the sleeve 98, the air passing through the sleeve 98 is heated by the heated water. Therefore, Laskey does not efficiently cool the discharged air. In other words, Laskey does not consider the advantageous improvement of cooling efficiency achieved by “the first cooling chamber [being] located between the medium passage and the compression chamber”, as claimed by Applicants. As a result, the Examiner's conclusory statement that “it would have been a matter of engineering design choice in the combination to determine which cooling structure goes first” is not based on articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.

In addition, in Laskey, the water flows from the first pass 120 to the second pass 122 while the discharge air flows through the intercooler assembly 28 in the order of the second pass 122 and the first pass 120. With this arrangement, if Laskey were to be combined with Moroi, the water would flow from the second cooling chamber to the first cooling chamber of amended claim 1. Thus, even if *arguendo* the combination of Laskey and Moroi were to be made, such a combination would not result in a feature of “the medium passage being arranged so as to restrain transmission of heat from the discharged gas in the gas passage to the cooling medium in the first cooling chamber”, as recited in amended claim 1.

As a result, Applicants submit that the Examiner fails to establish *prima facie* obviousness, and has arrived to the conclusory statements without some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness, but rather by gleaned the facts from applicants own disclosure. Accordingly, none of Laskey and Morooi—either taken alone or in combination—render amended claim 1 obvious. In addition, Applicants submit that none of Kushiro, Dewar, Cowans, Edmund and Shimada cure the above-noted deficiencies of Laskey and Moroi. Thus, amended claim 1 and claims depending thereupon are now in condition for allowance.

Dependent Claims 2 and 13:

Further to the above, original claims 2 and 13 recite the features of “the cooling medium is flowed from the first cooling chamber to the medium passage” and “the cooling medium is flowed into the first cooling chamber and the medium passage so as to be divided into two flows” respectively. The Examiner has taken Official Notice alleging that “it was well known to a person having ordinary skill in the art at the time of applicant’s invention was made to have arranged piping for multiple cooling units in either series or parallel, so as to have delivered coolant to the first-cooling-chamber (Moroi et al. ‘069) and the intercooler/second-cooling-chamber (Laskey et al. ‘362).” (Office Action, page 4).

Applicants respectfully disagree with the Examiner’s Official Notice of such an arrangements being “well known”. In particular, it is noted that current patent prosecution practice, as set forth in the Manual of Patent Examination and Procedure (MPEP), provides that “[w]hile ‘official notice’ may be relied on, these circumstances should be rare ... Official notice unsupported by documentary evidence should only be taken by the examiner where the facts

asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which may be taken by the examiner must be ‘capable of such instant and unquestionable demonstration as to defy dispute’ (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)). (see, MPEP §2144.03 A, Emphasis added).

In the present case, Applicants submit that the facts are not capable of instant and unquestionable demonstration as being well-known. The features of “the cooling medium is flowed from the first cooling chamber to the medium passage” and “the cooling medium is flowed into the first cooling chamber and the medium passage so as to be divided into two flows” are germane to the other inventive features recited in amended base claim 1, and as such are not capable of instant and unquestionable demonstration as being well-known. For example, the feature of “the cooling medium is flowed from the first cooling chamber to the medium passage”, as recited in original claim 2, relates to the first exemplary embodiment of FIGs. 1-4. The first exemplary embodiment shows that the cooling medium first flows into the first cooling (e.g., back cooling chamber 41), and then into medium passage (e.g., the inter-cooler 51). Cooling chamber 41, however, is provided so as to surround the discharge port for cooling the gas flowing therethrough, and the first cooling chamber is located between the medium passage and the compression chamber. Applicants assert that, this specific arrangement would not be capable of instant and unquestionable demonstration as being well-known. On the other hand, the feature of “the cooling medium is flowed into the first cooling chamber and the medium passage so as to be divided into two flows” relates to the exemplary embodiment of FIG. 5. The exemplary embodiment of FIG. 5 illustrates that the cooling medium divides into two flows, so as to simultaneously flow into the first cooling chamber (e.g., back cooling chamber 41) and the medium passage (e.g., inter-cooler 51). However, the first cooling chamber is still restricted to the limitations recited in claim 1. Therefore, when the afore mentioned features are considered in conjunction with the other limitations of amended base claim 1, *as a whole*, the subject features would not be capable of instant and unquestionable demonstration as being well-known.

Should the Examiner continue to maintain the rejection of the features of claims 2 and 13, Applicants respectfully request that the Examiner provide appropriate art and/or

substantial technical basis that may demonstrate on the record that such features in conjunction with the other limitations, *as whole*, are facts capable of instant and unquestionable demonstration as being well-known.

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In view of the foregoing amendments and/remarks, Applicants respectfully assert that all of the pending claims in the present application are distinguishable from Laskey, Moroi, Kushiro, Dewar, Cowans, Edmund, Shimada, and combinations thereof. Accordingly, withdrawal of the rejections and a favorable examination on the merits is respectfully requested.

CONCLUSION

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

Should there be any formal matters remaining after this response, the Examiner is invited to telephone the undersigned at the number provided, in order to more expeditiously attend to such matters.

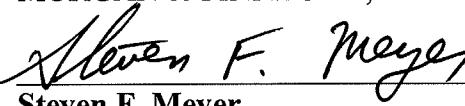
AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. **13-4500**, Order No. **5095-4085**. A DUPLICATE OF THIS DOCUMENT IS ATTACHED.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. **13-4500**, Order No. **5095-4085**.

Respectfully submitted,
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